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CENTRAL FAX CENTERAmendments to the Claims

Please amend the claims of the present application as set forth below. JUN 30 2004

Claims 1 – 16 were originally filed.

New claims 17 – 34 have been added herein.

Claims 1 – 34 are pending.

1. (Canceled)

2. (Currently Amended) The method as recited in Claim 14,
wherein the graphics processor is configured to count votes in a resulting Hough
transform voting buffer.

3. (Currently Amended) The method as recited in Claim 14,
wherein the graphics processor is configured to convolve image values and
provide corresponding results to the host processor.

4. (Currently Amended) ~~The method as recited in Claim 1A method
comprising:~~

providing image data; and
performing a Hough transform on the image data using a host processor and
an operatively configured graphics processor, wherein the graphics processor
performs an alpha-blending operation that selectively increments accumulators that
correspond to parameter combinations that are likely associated with an
observation.

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2 5. (Currently Amended) The method as recited in claim 14, wherein
3 the graphics processor performs a histogram computation to find a maxima value
4 in a Hough transform voting buffer.

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6 6. (Canceled)

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8 7. (Currently Amended) The apparatus as recited in Claim 69, ~~further~~
9 ~~comprising a local memory operatively coupled to the graphics processor and~~
10 wherein the graphics processor is configured to count votes in a resulting Hough
11 transform voting buffer within the local memory.

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13 8. (Currently Amended) The apparatus as recited in Claim 69, wherein
14 the graphics processor is configured to convolve image values and provide
15 corresponding results to the host processor.

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17 9. (Currently Amended) ~~The apparatus as recited in Claim 6An~~
18 apparatus comprising:

19 a host processor configured to provide image data;
20 a graphics processor operatively coupled to the host processor and
21 configured to perform selected steps of a Hough transform algorithm on the image
22 data in association with the host processor; and, further comprising
23 a local memory operatively coupled to the graphics processor, and wherein
24 the graphics processor performs an alpha-blending operation that selectively

1 increments accumulators within the local memory that correspond to parameter
2 combinations that are likely associated with an observation.

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4 10. (Currently Amended) The apparatus as recited in claim 69, ~~further~~
5 comprising a local memory operatively coupled to the graphics processor and
6 wherein the graphics processor performs a histogram computation to find a
7 maxima value in a Hough transform voting buffer within the local memory.

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9 11. (Canceled)

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11 12. (Currently Amended) The computer-readable medium as recited in
12 Claim 114, having computer-executable instructions that cause the graphics
13 processor to count votes in a resulting Hough transform voting buffer.

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15 13. (Currently Amended) The computer-readable medium as recited in
16 Claim 114, having computer-executable instructions that cause the graphics
17 processor to convolve image values and provide corresponding results to the
18 host processor.

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20 14. (Currently Amended) ~~The computer-readable medium as recited in~~
21 ~~Claim 11A computer-readable medium having computer-executable instructions~~
22 ~~for performing steps comprising:~~

23 providing image data;

1 performing a Hough transform on the image data using a host processor and
2 an operatively configured graphics processor; and, having computer-executable
3 instructions that cause

4 causing the graphics processor to perform an alpha-blending operation that
5 selectively increments accumulators that correspond to parameter combinations
6 that are likely associated with an observation.

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8 15. (Currently Amended) The computer-readable medium as recited in
9 claim 1114, having computer-executable instructions that cause the graphics
10 processor to perform a histogram computation to find a maxima value in a Hough
11 transform voting buffer.

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13 16. (Canceled)

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15 17. (New) The method as recited in Claim 4 wherein the performing
16 operation comprises template matching.

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18 18. (New) The method as recited in Claim 4 wherein the alpha-blending
19 operation adds a tent function to the accumulators, the tent function characterizing
20 errors associated with the observation.

21
22 19. (New) The method as recited in Claim 4 wherein the alpha-blending
23 operation adds a Gaussian function to the accumulators, the Gaussian function
24 characterizing errors associated with the observation.

1 20. (New) The method as recited in Claim 4 wherein the graphics
2 processor performs the alpha-blending operation on multiple channels in parallel.

3

4 21. (New) The method as recited in Claim 4 wherein the graphics
5 processor comprises a 3-Dimensional accelerator.

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7 22. (New) The method as recited in Claim 4 wherein the accumulators
8 are arranged in an array wherein related parameters are contiguous.

9

10 23. (New) The apparatus as recited in Claim 9 wherein the graphics
11 processor is configured to perform template matching.

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13 24. (New) The apparatus as recited in Claim 9 wherein the alpha-
14 blending operation adds a tent function to the accumulators, the tent function
15 characterizing errors associated with the observation.

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17 25. (New) The apparatus as recited in Claim 9 wherein the alpha-
18 blending operation adds a Gaussian function to the accumulators, the Gaussian
19 function characterizing errors associated with the observation.

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21 26. (New) The apparatus as recited in Claim 9 wherein the graphics
22 processor performs the alpha-blending operation on multiple channels in parallel.

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24 27. (New) The apparatus as recited in Claim 9 wherein the graphics
25 processor comprises a 3-Dimensional accelerator.

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2 28. (New) The apparatus as recited in Claim 9 wherein the accumulators
3 are arranged in an array wherein related parameters are contiguous.

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5 29. (New) The computer-readable medium as recited in Claim 14
6 wherein the performing operation comprises template matching.

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8 30. (New) The computer-readable medium as recited in Claim 14
9 wherein the alpha-blending operation adds a tent function to the accumulators, the
10 tent function characterizing errors associated with the observation.

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12 31. (New) The computer-readable medium as recited in Claim 14
13 wherein the alpha-blending operation adds a Gaussian function to the
14 accumulators, the Gaussian function characterizing errors associated with the
15 observation.

16
17 32. (New) The computer-readable medium as recited in Claim 14
18 wherein the graphics processor performs the alpha-blending operation on multiple
19 channels in parallel.

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21 33. (New) The computer-readable medium as recited in Claim 14
22 wherein the graphics processor comprises a 3-Dimensional accelerator.

1 34. (New) The computer-readable medium as recited in Claim 14
2 wherein the accumulators are arranged in an array wherein related parameters are
3 contiguous.

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